EQUIPMENT DATA SPECIFICATION
AIR CONDITIONER

Dust & Dirt Environment Package
CS020

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SPECIFICATION

1.0 SCOPE

This specification covers the minimum general and specific requirements for the Air Conditioner unit for electrical enclosures used in environments with dust from flour, coal, paper, wood, etc., that will clog the air conditioner filters and coils. The airborne oil in machine shops also will be captured by the air conditioner coils and restrict air flow.

2.0 REQUIREMENTS

- Type of Heat Exchange — Compressor based air conditioner
- Ambient Operating Temperature — 60°F – 125°F
- Approvals and Stamps — UL, cUL, CE
- NEMA Type — 12 or 4
- Voltage — 110-120 VAC, 60 Hz, 10.63A Inrush, 3.36A Running
220-240 VAC, 60 Hz, 8.84A Inrush, 2.00A Running
- BTU Rating — 2000 BTUH, Nominal
- Material Type — Powder coated cold rolled steel
- Construction — Chassis: Rigid, insulated, closed loop
Shroud: Seam welded, sloped top, insulated
- Refrigeration Circuit Protection — Electrostatic epoxy coated coils
- Condensate Removal — Active evaporation utilizing superheated refrigerant coil
- Refrigerant — R422d
- Refrigerant Metering — Thermal expansion valve
- Refrigerant Service Ports — High pressure
Low pressure

- Digital Controller
  - Controls
    - Cooling set point
    - Cooling set point differential
    - Compressor protection:
      - Anti-short cycle delay
      - Condenser high temperature limit
      - Evaporator low pressure limit
    - Probes displayed:
      - Evaporator temperature
      - Condenser temperature
    - Auxiliary set points:
      - Heater
      - Dry contact
    - Auxiliary set point differential
  - Alarms
    - Enclosure probe failure (P1)
    - Condenser probe failure (P2)
    - Maximum temperature for 3 minutes (HA)
    - Minimum temperature for 3 minutes (LA)
    - Condenser high temperature for 3 minutes (HA2)
    - Condenser low temperature for 3 minutes (LA2)
    - Evaporator low pressure for 2 minutes (CA)
- Compressor Head Pressure Control — Pressure controlled condenser fan switch
- Compressor Protection — Thermal/current overload switch (self-resetting)
- Condenser Filter — High Capacity: 2” Pleated, 304 Stainless steel mesh, 250 micron, 94% efficiency
- Electrical Connection — Terminal block
Power On/Off switch
- Dimensions — 120 V / 230 V: 20”H x 10”W x 10”D
- Unit Weight — 120 V / 230 V: 45 lbs.
- Shipping — Corrugated packaging and pallet

3.0 OPTIONS

• Louvered Security Filter Cover	Powder coated mild steel
• NEMA Type	4X
• Integrated Heater	500W
• Dry Contact (Operation when enclosure temperature exceeds maximum limit)	Normally open Normally closed Normally open & normally closed
• Remote Controller	Digital controller supplied with 10 ft. cable & bracket for installation inside equipment cabinet
• Custom Programming	Factory programming of digital controller for Celsius temperature or deviation from default settings
• External Heat Output	100 W – 950W
• High Ambient	For operation at ambient temperatures above 125°F
• Open Door Kill Switch	Disables power to air conditioner when equipment enclosure door is open
• Adjustable Temperature Probe	Monitor & maintain temperature at any point inside equipment enclosure
• Controller Communication Output	Modbus RTU Ethernet/IP

4.0 ACCESSORIES

• Replacement Filters	High Capacity
• Alarm & Controlling Web Server	XWEB300D-8B000 – for up to 6 air conditioners XWEB300D-8F000 – for up to 18 air conditioners

5.0 CODES AND STANDARDS

- ANSI/UL 484 — Room Air Conditioners (Special Purpose)
- ANSI/NFPA 70 — National Electrical Code
- CSA-C22.2 No. 236-M90 — Heating and Cooling Equipment
- CSA-C22.2 No. 117 — Room Air Conditioners (Special Purpose)
- CAN/CSA-C22.1 — Canadian Electrical Code, Part I.
- EN Harmonized European Standards
  - EN 378-1 through -4 — Refrigerating Systems and Heat Pumps
  - EN 60204-1 — Electrical Equipment of Machinery
  - EN 60529, IP — IP Code
  - EN 61000-3-11 — Electromagnetic Compatibility
  - EN 61000-6-2 — Emission
  - EN 61000-6-4 — Immunity
- Hazardous Location Standards
  - ANSI/UL 1203 — Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
  - UL 698 — Industrial Control Equipment for Use in Hazardous (Classified) Locations
  - ANSI/UL 877 — Circuit Breakers and Circuit-Breaker Enclosures for Use in Hazardous (Classified) Locations
  - UL 886 — Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations
  - ANSI/UL 894 — Switches for Use in Hazardous (Classified) Locations
  - ANSI/UL 1002 — Electrically Operated Valves for Use in Hazardous (Classified) Locations
  - ANSI/UL 1010 — Receptacle-Plug Combinations for Use in Hazardous (Classified) Locations
  - ANSI/UL 913 — Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous (Classified) Locations
  - ANSI/ISA-12.12.01 — Non-Incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
  - UL 1604 — Electrical Equipment for Use in Class I and II, Division 2, and Class III Hazardous (Classified) Locations
  - ANSI/NFPA 496 — Purged and Pressurized Enclosures for Electrical Equipment
  - IEC 60529 — Classification of Degrees of Protection Provided by Enclosures
  - CSA-C22.2 No. 30-1986 — Explosion-Proof Enclosures for Use in Class I Hazardous Locations
  - CSA-C22.2 No. 25-1966 — Enclosures for Use in Class II Groups E, F and G Hazardous Locations
  - CAN/CSA-E61241-1-1-2002 — Limitation - Specification for Apparatus Electrical Apparatus for Use in the Presence of Combustible Dust - Part 1-1: Electrical Apparatus Protected by Enclosures and Surface Temperature
  - CAN/CSA-C22.2 No. 157-1992 — Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
  - CSA-C22.2 No. 213-1987 — Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
  - ANSI/NFPA 496 — Purged and Pressurized Enclosures for Electrical Equipment